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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BERKO, RETFORD O

ART UNIT

PAPER NUMBER

1618

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/088,942

Applicant(s)

CHUNG ET AL.

Examiner

Retford Berko

Art Unit

1618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgement: The Amendment filed 8/30/04 is acknowledged.

Status of Claims

Applicant provided no changes in the claims with the Amendment. The Amendment entailed amendment to the specification and remarks.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 USC 102(b) as anticipated by Yamashita et al (US 4, 764, 206).

Yamashita et al (Patent '206) teach powder granules of paraquat dichloride (15%), surfactant (5%), polyvinyl pyrrolidone (60%) and white carbon (20%)---Example 4 at col 5 and Example 22 at col 7). In claim 1, "breakage promoter" is not specifically defined, but in considering claims 1-4 together and in the specification as defined, examiner relied on the term as used include polyvinyl pyrrolidone which is present as an ingredient in the composition. No patentable weight was given to the kneading using a granulator in claim 1 because the examples refer to preparing powders of paraquat by mixing and grinding the paraquat and ingredients. No experimental conditions for the method are claimed (e.g. temperature) and examiner assumed room temperature conditions.

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Claims 1-4 are anticipated by Yamashita et al (Patent '206).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-5 are rejected under 35 U.S.C. under 35 U.S.C. 103(a) as being unpatentable over Tadayuki et al (US 5, 668, 086) in view of Yamashita et al (US 4, 764, 206) further in view of White et al (US 3, 931, 137).

Tadayuki et al (Patent '086) discloses herbicidal composition in the form of granules comprising paraquat, anionic surfactant and chelating agent; wherein the molar ratios of the

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ingredients are also disclosed (col 1, lin 50-55; col 4, lin 45-65 and col 7, lin 55-65). Tadayuki et al disclosed a method of preparing granules (col 4, lin 58-65 and Examples 1 and 2 at col 5-6)

Tadayuki et al (Patent '086) does not disclose a breakage promoter (polyvinyl pyrrolidone) and extender (white carbon) in the composition.

Yamashita et al (Patent '206) discloses a herbicidal composition as wettable powder comprising paraquat dichloride, polyvinyl pyrrolidone, white carbon and surfactant and wherein the relative proportions in wt/% of the ingredients are disclosed (col 5, lin 50-55). Yamashita et al discloses paraquat wettable granules: the granules comprise of paraquat dichloride, guar gum white carbon and surfactant (col 7, lin 40-55). Further, Yamashita et al discloses that the ingredients as a mixture was uniformly mixed and ground and then granulated by spraying water containing 2% polyvinyl pyrrolidone in a granulator (col 7, lin 40-45)-- thickening agent, conventional ingredients and surfactants. (col 3, lin 15-25).

White et al (Patent '137) discloses herbicidal composition containing paraquat dichloride and urea that can be dissolved in a solvent such as water to give a solution. The solution thus obtained yields crystals of the herbicide on cooling (col 1, lin 5-10, lin 50 and lin 60-65 continuing to col 2, lin 1-5). Significantly, White et al disclosed advantages of the method of preparation, providing a composition that controls growth of unwanted vegetation for longer periods of time, the product can be transported in plastic or paper sacks and preparation does not need a special machinery for granulation (col 3, lin 31-50).

One of ordinary skill would have been motivated to prepare herbicidal composition as by the methods disclosed in the prior art cited (Patent 086, Patent '206 and Patent 137). One of ordinary skill would have been motivated to include urea as breakage promoter and also include

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optional additional ingredients. One of ordinary skill in the art would expect to obtain the same level of success in preparing an effective paraquat dichloride herbicide as each reference has disclosed. By using urea instead of polyvinyl pyrrolidone as breakage promoter, one of ordinary skill would expect to obtain a urea salt of paraquat—a product of that is shown to be effective as a herbicide in the form that can readily be pressed into granules, said granules can readily be dissolved in water and applied for controlling unwanted vegetation for longer periods of time due to improved stability and having special advantages (White et al, col 3, lin 31-50). Therefore the invention as a whole would have been prima facie obvious to one of ordinary skill at the time the invention was made.

Response To Applicant's Argument

Applicant's arguments have been considered carefully but are found unpersuasive:

Applicant argued that White reference taken singly or in combination with Tadayuki and Yamashita, does not disclose or make obvious because they do not disclose a water dispersible granule containing paraquat dichloride (5 to 50wt%) 5-30 wt% of a surfactant, 1-20% of a breakage promoter, and the remainder being an extender prepared in a specific way as recited in the claims.

In response, Yamashita et al (Patent '206) teach powder granules of a composition comprising paraquat dichloride (15%), surfactant (5%), polyvinyl pyrrolidone (60%) and white carbon (20%)---Example 4 at col 5 and Example 22 at col 7). Examiner pointed out that in claim 1, "breakage promoter" is not specifically defined, but in considering claims 1-4 together and in the specification as defined, examiner relied on the term as used include polyvinyl pyrrolidone which is present as an ingredient in the composition. No patentable weight was

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given to the kneading using a granulator in claim 1 because the examples refer to preparing powders of paraquat by mixing and grinding the paraquat and ingredients. Moreover, under Sec 103(a) rejection it was explained that White et al disclosed advantages of the method of preparation, providing a composition that controls growth of unwanted vegetation for longer periods of time, the product can be transported in plastic or paper sacks and preparation does not need a special machinery for granulation (col 3, lin 31-50).

Applicant argued Tadayuki et al used ionic surfactant and suggested that when ionic surfactant is used, there may be a problem with cohesion or precipitation with aromatic chelating compound, contending that the instant claims solve the problem because (a) the breakage promoter in accordance with the present invention disintegrates the combination of a negative ion in the clay minerals and bipyridylium when being diluted for the spreading to assist in the herbicidal effect and (b) that the product in Tadayuki is a powder which has a danger of inhalation poisoning associated with it; said problem is solved by the present invention. (i.e. granules instead of powder formulation).

In response, Yamashita et al (Patent '206) teach the same composition as in applicant's claim 1 in that Yamashita teaches powder granules of paraquat dichloride (15%), surfactant (5%), polyvinyl pyrrolidone (60%) and white carbon (20%)---Example 4 at col 5 and Example 22 at col 7). In claim 1, "breakage promoter" is not specifically defined, but in considering claims 1-4 together and in the specification as defined, examiner relied on the term as used include polyvinyl pyrrolidone which is present as an ingredient in the composition. Also, while Tadayuki may have disclosed a powder formulation, Yamashita et al is a better reference because it showed granules and the same proportions of ingredients as in the instant claims.

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Respecting the issue, it is further noted that White disclosed crystalline composition, therefore the Section 103(a) rejection is maintained because the references cited are considered together, not isolation; and a motivation to combine is provided.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Retford Berko** whose telephone number is 703-305-4442. The examiner can normally be reached on M-F from 8.00 am to 5.30 pm

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Thurman K Page**, can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

THURMAN K PAGE
SUPERVISORY PATENT EXAMINER
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